



PHOENIX PRODUCTION COMPANY

RECEIVED
SEP 16 2013
Wastewater Unit

225 WEST YELLOWSTONE AVE. ■ P.O. BOX 2653 ■ CODY, WYOMING 82414 ■ 307-587-6440 ■ FAX 307-587-6450

VIA CERTIFIED MAIL— RETURN RECEIPT

September 11, 2013
Attn: Mr. Bruce Kent
U.S. EPA, Region VIII
1595 Wynkoop Street
Denver, CO 80202-1129
Re: NPDES Permit WY-0024945 and WY-0024953; Rolff Lake and Sheldon Dome

Dear Mr. Kent:

With respect to Part 3.10.3 of the above referenced permits, please be advised of a chemical vendor change that occurred from NALCO to Champion Technologies.

Production chemistries are very similar to those previously used. Additionally, application rates and treating locations should be historically similar. Attached are the Material Safety Data Sheets (MSDS) for chemicals currently in use at the two facilities. For details, please see:

Vendor	Material Name
Champion Technologies	Cleartron ZB-578
Champion Technologies	Gyptron T-106
Champion Technologies	Cortron RN-261W
Champion Technologies	Emulsotron XA-1781
Champion Technologies	Scortron GR-164
Champion Technologies	Emulsotron X-203
Danlin	HALT 11

Thank you for your assistance with your surface water discharge system. Please feel free to contact me with any questions you may have.

Sincerely,

Phoenix Production/BreitBurn Operating
Joshua Black
Office: 307.587.6440 xt 220
Email: joshua.black@breitburn.com

Material Safety Data Sheet

Cleartron® ZB-578

1. PRODUCT AND COMPANY IDENTIFICATION

Product name Cleartron® ZB-578
Product use Water Clarifier
Manufacturer Champion Technologies, Inc.
P.O. Box 450499
Houston, TX, 77245
USA
Telephone 1-281-431-2561 (Champion)
In case of emergency 1-800-424-9300 (CHEMTREC)
1-703-527-3887 (CHEMTREC - International)

2. HAZARDS IDENTIFICATION

Physical state liquid
Color Clear. Amber.
Odor pungent.
Emergency overview DANGER!
Corrosive. Combustible. Harmful. Keep away from heat, sparks and flame.

Potential health effects

Inhalation Possible risk of irreversible effects. May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.
Ingestion Harmful if swallowed. Possible risk of irreversible effects. May cause burns to mouth, throat and stomach.
Skin Corrosive to the skin. Causes burns. Possible risk of irreversible effects.
Eyes Corrosive to eyes. Causes burns.
Chronic effects No known significant effects or critical hazards.

See toxicological information (section 11)

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Name</u>	<u>CAS no.</u>	<u>Weight %</u>
Zinc chloride	7646-85-7	10 - 30
Methanol	67-56-1	10 - 30

4. FIRST AID MEASURES

Eye contact Get medical attention immediately. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.

Skin contact Get medical attention immediately. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Inhalation Get medical attention immediately. Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention

immediately. Maintain an open airway.

Ingestion	Get medical attention immediately. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
Notes to physician	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. FIRE-FIGHTING MEASURES

Flash point	103 °F (39.4 °C), Pensky-Martens.
Flammability of the product	Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
<u>Extinguishing media</u>	
Suitable	Use dry chemical, CO2, water spray (fog) or foam.
Not suitable	Do not use water jet.
Special exposure hazards	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. This material is very toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous combustion products	carbon dioxide, carbon monoxide, nitrogen oxides, halogenated compounds, metal oxide/oxides
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Special remarks on fire hazards	Not available.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
Environmental precautions	Avoid contact of spilled material with soil and prevent runoff entering surface waterways. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Methods for cleaning up

Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if
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water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. HANDLING AND STORAGE

Handling

Use only with adequate ventilation. Put on appropriate personal protective equipment (see section 8). Wear appropriate respirator when ventilation is inadequate. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Avoid release to the environment. Do not enter storage areas and confined spaces unless adequately ventilated. Eliminate all ignition sources. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. Workers should wash hands and face before eating, drinking and smoking.

Storage

Store in accordance with local regulations. Store in a segregated and approved area. Keep container in a well-ventilated area. Store in the original container or an approved alternative made from a compatible material. Keep tightly closed when not in use. Separate from oxidizing materials. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection

Hands	Use chemical-resistant, impervious gloves.
Eyes	Goggles, face shield or other full-face protection should be worn if there is a risk of direct exposure to aerosols or splashes.
Body	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory	If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Occupational exposure limits

<u>Component</u>	<u>Source</u>	<u>Type</u>	<u>PPM</u>	<u>MG/M3</u>	<u>Notes</u>
Zinc chloride	OSHA PEL	TWA		1 mg/m3	
	NIOSH REL	TWA		1 mg/m3	
	NIOSH REL	STEL		2 mg/m3	
	ACGIH TLV	TWA		1 mg/m3	
	ACGIH TLV	STEL		2 mg/m3	
Methanol	OSHA PEL	TWA	200 ppm	260 mg/m3	
	NIOSH REL	TWA	200 ppm	260 mg/m3	SKIN
	NIOSH REL	STEL	250 ppm	325 mg/m3	SKIN
	ACGIH TLV	TWA	200 ppm	262 mg/m3	SKIN
	ACGIH TLV	STEL	250 ppm	328 mg/m3	SKIN

SKIN - Skin absorption can contribute significantly to overall exposure.

Engineering measures	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing. Emergency baths, showers, or other equipment appropriate for the potential level of exposure should be located close to the workstation location.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid
Color	Clear. Amber.
Odor	pungent.
Odor threshold	Not available.
Boiling/condensation point	Not available.
Pour point	Not available.
Flash point	103 °F (39.4 °C), Pensky-Martens.
Flammable limits	Lower: Not available. Upper: Not available.
Auto-ignition temperature	Not available.
pH	2.0 - 4.0, Method (neat)
Evaporation rate	Not available.
Solubility	Water
Vapor density	Not available.
Relative density	1.3555 - 1.3956 @ 68 °F (20.0 °C)
Vapor pressure	Not available.
Viscosity	Dynamic: 40 - 80 cPs
Octanol/water partition coefficient (LogPow)	Not available.

Note: Typical values only - not to be interpreted as sales specifications

10. STABILITY AND REACTIVITY

Stability	The product is stable.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Avoid release to the environment. Refer to special instructions/safety data sheet.

Materials to avoid oxidizing materials

Hazardous decomposition products Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

<u>Substance</u>	<u>Test type</u>	<u>Species</u>	<u>Dose</u>
Zinc chloride	LD50 Oral	Rat	350 mg/kg
Methanol	LD50 Oral	Rat	5,600 mg/kg
	LD50 Oral	Mouse	5,800 mg/kg
	LD50 Oral	Rabbit	14,200 mg/kg
	LC50 Inhalation	Mouse	41000 ppm
	LC50 Inhalation	Rat	64000 ppm
	LC50 Inhalation	Rabbit	81,000 mg/m3
	LD50 Dermal	Rabbit	15,800 mg/kg

Irritation/Corrosion

Not available.

Target organ effects Methanol: Ingestion may cause blindness.

Carcinogenicity

None of the components are listed.

12. ECOLOGICAL INFORMATION

Environmental effects Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Other adverse effects None known.

13. DISPOSAL CONSIDERATIONS

Waste disposal The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. TRANSPORT INFORMATION

Refer to the bill of lading or container label for DOT or other transportation hazard classification. Additionally, be aware that shipping descriptions may vary based on mode of transport, shipment volume or weight, container size or type, and/or origin and destination. Consult your company's Hazardous Materials / Dangerous Goods expert or your legal counsel for information specific to your situation.

15. REGULATORY INFORMATION

HCS Classification

Component

Zinc chloride
Methanol

Classification

Harmful., Corrosive, Occupational exposure limits
Irritant., Target organ effects, Occupational exposure limits

U.S. Federal regulations

CERCLA: Hazardous substances - Reportable quantity:

Substance

Zinc chloride
Methanol

Reportable quantity

1000 lbs
5000 lbs

Product Reportable quantity

3,681 lb, 321 gal US

Substance

Zinc chloride

Product spills equal to or exceeding the threshold above trigger the reporting requirements under CERCLA for the listed hazardous substance. Report the spill or release to the National Response Center (NRC) at (800) 424-8802.

SARA Title III Section 302 Extremely hazardous substances (40 CFR Part 355):

None of the components are listed.

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:

Immediate (acute) health hazard. Delayed (chronic) health hazard. Fire hazard.

SARA 313 - Supplier notification

Component

Zinc chloride
Methanol

CAS no.

7646-85-7
67-56-1

Weight %

10 - 30
10 - 30

Clean Water Act (CWA) 307:

The following components are listed: Zinc chloride.

Clean Water Act (CWA) 311:

The following components are listed: Zinc chloride.

Clean Air Act (CAA) 112 accidental release prevention:

None of the components are listed.

Clean Air Act (CAA) 112 regulated flammable substances:

None of the components are listed.

Clean Air Act (CAA) 112 regulated toxic substances:

None of the components are listed.

State regulations

Massachusetts Substances: The following components are listed: Zinc chloride. Methanol.

New Jersey Hazardous Substances: The following components are listed: Methanol. Zinc chloride.

Pennsylvania RTK Hazardous Substances: The following components are listed: Methanol. Zinc chloride.

California Prop. 65

Not available.

International regulations

United States inventory (TSCA 8b):

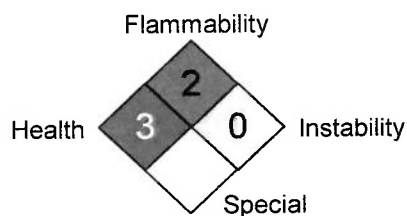
All components are listed or exempted.

Canada inventory (DSL):

All components are listed or exempted.

16. OTHER INFORMATION

National Fire Protection Association (U.S.A.):



Prepared by	Product Stewardship (1-281-431-2561)
Date of issue	08/26/2010
Date of previous issue	00/00/0000
Version	3.0

Disclaimer

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME Gypton T-106

PRODUCT USE Scale Inhibitor

COMPANY MAILING ADDRESS Champion Technologies, Inc.
P.O. Box 450499
Houston, TX, 77245
USA

EMERGENCY TELEPHONE NUMBERS 24 HRS. 1-800-424-9300 (CHEMTREC)
1-703-527-3887 (CHEMTREC - International)
1-613-996-6666 (CANUTEC - Canada)
1-281-431-2561 (Champion)

2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE	CAS-NO.	WEIGHT %
Methanol	67-56-1	10.0 - 30.0
Amine Phosphonate 1	Proprietary	5.0 - 10.0
Ammonium Chloride	12125-02-9	1.0 - 5.0
Phosphoric acid	7664-38-2	0.1 - 1.0

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW WARNING!

APPEARANCE & ODOR
HEALTH HAZARDS
PHYSICAL HAZARDS

Amber, Liquid, Sweet
Irritant
Flammable, Material may be ignited by heat, sparks or flames.

HEALTH HAZARDS

SKIN

Irritating to skin.

EYE

Irritating to eyes.

INHALATION

Irritating to respiratory system.

INGESTION

May be harmful if swallowed.

POTENTIAL ENVIRONMENTAL EFFECTS

Prevent product from entering drains (waterways).

4. FIRST AID MEASURES

SKIN

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.

EYE	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
INHALATION	Move to fresh air. If symptoms persist, call a physician.
INGESTION	Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

FLASH POINT	85 °F (29 °C)
EXTINGUISHING MEDIA	Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
SPECIAL HAZARDS	Vapors are heavier than air and may travel considerable distance along the ground or be moved by ventilation to ignition sources. Empty product containers may contain product residue. Do not pressurize, cut, heat, weld or expose containers to flame or other sources of ignition.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS	Wear positive-pressure self-contained breathing apparatus (SCBA) and full protective fire fighting gear. Equipment should be thoroughly decontaminated after use.
HAZARDOUS COMBUSTION PRODUCTS	Combustion products may include carbon monoxide, carbon dioxide and nitrogen oxides.
FIRE FIGHTING / FURTHER ADVICE	Evacuate area and fight fire from safe distance. Use water spray to cool fire exposed structures and to protect personnel. Shut off source of flow if possible. If a leak or spill has not ignited, use water spray to disperse the vapors.

6. ACCIDENTAL RELEASE MEASURES

CLEAN UP METHODS	Eliminate all ignition sources. No flares, smoking or flames in hazard area. Stop leak if you can do it without risk. Liquids may need to be neutralized before collection begins. Take up spill with sand or other noncombustible absorbent material and place in containers for later disposal. Always wear proper personal protective equipment when addressing spill or leak.
ENVIRONMENTAL PRECAUTIONS	Prevent product from entering drains (waterways).

7. HANDLING AND STORAGE

GENERAL PRECAUTIONS	Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of material from eyes, skin and clothing. Wash thoroughly after handling. Avoid breathing vapor. Use only with adequate ventilation. Keep away from heat and sources of ignition. Take precautionary measures against static discharges.
STORAGE	Keep container closed when not in use. Store in cool, dry place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS

NAME	SOURCE	TYPE	PPM	MG/M3	NOTATION
Methanol	ACGIH	TWA	200		
		STEL	250		
		SKIN			*
	NIOSH	REL	200	260	
		STEL	250	325	
		SKIN			*
Ammonium Chloride	ACGIH	PEL	200	260	
	NIOSH	TWA		10	
		STEL		20	
		REL		10	
Phosphoric acid	ACGIH	STEL		20	
	NIOSH	TWA		1	
		STEL		3	
		REL		1	
OSHA		STEL		3	
		PEL		1	

* = Can be absorbed through the skin.

ENGINEERING MEASURES	Provide general and/or local exhaust ventilation, process enclosures or other engineering controls to control airborne levels below exposure guidelines.
RESPIRATORY PROTECTION	When respiratory protection is required, use an approved air purifying respirator or positive-pressure supplied-air respirator depending on potential airborne concentration.
HAND PROTECTION	Wear chemical-resistant gloves to prevent skin contact. Glove/protective clothing suppliers can provide recommendations for your specific applications. Wash immediately if skin is contaminated. Good personal hygiene practices such as properly handling contaminated clothing, using wash facilities before eating, drinking or smoking are essential for preventing personal chemical contamination. Contaminated gloves should be replaced.
EYE PROTECTION	Use chemical splash goggles, safety glasses and/or face shield. An emergency eye wash fountain should be located in immediate work area.
BODY PROTECTION	A safety shower should be located in the immediate work area. Remove contaminated clothing, wash skin with soap and water and launder clothing before reuse or dispose of properly.

9. PHYSICAL AND CHEMICAL PROPERTIES

FORM	Liquid
COLOR	Amber
ODOR	Sweet
ODOR THRESHOLD	Not available
BOILING POINT	Not available
POUR POINT	< -40 °F (< -40 °C)
FLASH POINT	85 °F (29 °C)

LOWER EXPLOSION LIMIT	Not available	
UPPER EXPLOSION LIMIT	Not available	
AUTOIGNITION TEMPERATURE	Not available	
EVAPORATION RATE	Not available	
pH	6.5 - 7.5	
SOLUBILITY	Water	
RELATIVE VAPOR DENSITY (AIR = 1)	Not available	
SPECIFIC GRAVITY (H ₂ O = 1)	1.0988 - 1.1260	@ 60 °F (16 °C)
VAPOR PRESSURE	77.57 mmHg	
VISCOSITY	1 - 10 cPs	
PARTITION COEFFICIENT (N-OCTANOL/WATER)	Not available	

10. STABILITY AND REACTIVITY

STABILITY	Stable
CONDITIONS TO AVOID	Open flames, Sparks
MATERIALS TO AVOID	Strong oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS	Oxides of carbon, nitrogen, and phosphorus, Fumes of ammonia, Hydrogen chloride
HAZARDOUS POLYMERIZATION	Will not occur

11. TOXICOLOGICAL INFORMATION

No data is available on the product itself.

CARCINOGENICITY

Product: Not available

TARGET ORGAN TOXICITY

Methanol Ingestion may cause blindness.

12. ECOLOGICAL INFORMATION

No data is available on the product itself.

13. DISPOSAL CONSIDERATIONS

ADVICE ON DISPOSAL Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

Refer to the bill of lading or container label for DOT or other transportation hazard classification. Additionally, be aware that shipping descriptions may vary based on mode of transport, shipment volume

or weight, container size or type, and/or origin and destination. Consult your company's Hazardous Materials / Dangerous Goods expert or your legal counsel for information specific to your situation.

15. REGULATORY INFORMATION

FEDERAL REGULATORY STATUS

SARA HAZARD CATEGORY 1 - Acute, 2 - Chronic, 3 - Fire

CERCLA

SUBSTANCE	REPORTABLE QUANTITY
Methanol	5000 lbs
Ammonium Chloride	5000 lbs
Phosphoric acid	5000 lbs

STATE REGULATORY STATUS

CALIFORNIA PROPOSITION 65

KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

Formaldehyde	0.0445%
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STATE RIGHT TO KNOW

NEW JERSEY RIGHT-TO-KNOW CHEMICAL LIST

Formaldehyde
Methanol

MASSACHUSETTS RIGHT-TO-KNOW CHEMICAL LIST

Ammonium Chloride
Formaldehyde
Methanol
Phosphoric acid

PENNSYLVANIA RIGHT-TO-KNOW CHEMICAL LIST

Ammonium Chloride
Formaldehyde
Methanol
Phosphoric acid

INVENTORY STATUS

NOTIFICATION STATUS

TSCA	Listed or Exempt
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16. OTHER INFORMATION

NFPA RATING

HEALTH	2
FLAMMABILITY	3
INSTABILITY	0

Prepared By: Product Stewardship

Preparation Date: 02/21/2008

The data and information contained herein are being furnished for informational purposes only, upon the express condition that each customer shall make its own assessment of appropriate use and appropriate shipping, transfer and storage materials and procedures for Champion Technologies, Inc. products. Although based on information sources which Champion Technologies, Inc. considers accurate and reliable, Champion Technologies Inc. makes no warranty, either express or implied, including any warranties or merchantability or fitness for a particular purpose, regarding the validity of this information, the information sources upon which the same are based, or the results to be obtained, and expressly disclaims liabilities for damages or injuries resulting from the use thereof.

Material Safety Data Sheet

Cortron® RN-261W

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	Cortron® RN-261W
Product use	Corrosion Inhibitor
Manufacturer	Champion Technologies, Inc. P.O. Box 450499 Houston, TX, 77245 USA
Telephone	1-281-431-2561 (Champion)
In case of emergency	1-800-424-9300 (CHEMTREC) 1-703-527-3887 (CHEMTREC - International)

2. HAZARDS IDENTIFICATION

Physical state	liquid
Color	Brown.
Odor	pungent.
Emergency overview	WARNING! Flammable. Harmful. Irritant. Keep away from heat, sparks and flame.

Potential health effects

Inhalation	Possible risk of irreversible effects.
Ingestion	Possible risk of irreversible effects. Irritating to mouth, throat and stomach.
Skin	Possible risk of irreversible effects. Irritating to skin.
Eyes	Irritating to eyes.
Chronic effects	No known significant effects or critical hazards.

See toxicological information (section 11)

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Name</u>	<u>CAS no.</u>	<u>Weight %</u>
2-Butoxyethanol	111-76-2	1 - 5
Methanol	67-56-1	10 - 30
Aromatic Amine, Mercaptoacetic Acid Salt	Proprietary	1 - 5
Aromatic Amines, Acetates	Proprietary	1 - 5
Amine-Fatty Acid Condensate, Acetate	Proprietary	5 - 10
Alkyl amine surfactant, acetate salt	Proprietary	1 - 5
Alkyl Amine Surfactant, Phosphate Ester Salt	Proprietary	1 - 5

4. FIRST AID MEASURES

Eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention.
Skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention.
Inhalation	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical

attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Ingestion	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention. Never give anything by mouth to an unconscious person.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
Notes to physician	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. FIRE-FIGHTING MEASURES

Flash point	86 °F (30.0 °C), Pensky-Martens. Closed cup
Flammability of the product	Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
<u>Extinguishing media</u>	
Suitable	Use dry chemical, CO ₂ , water spray (fog) or foam.
Not suitable	Do not use water jet.
Special exposure hazards	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. This material is toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous combustion products	carbon dioxide, carbon monoxide, nitrogen oxides
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Special remarks on fire hazards	Not available.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
Environmental precautions	Avoid contact of spilled material with soil and prevent runoff entering surface waterways. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Methods for cleaning up

Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed
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waste disposal contractor.

Large spill Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. HANDLING AND STORAGE

Handling Use only with adequate ventilation. Put on appropriate personal protective equipment (see section 8). Wear appropriate respirator when ventilation is inadequate. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. Do not enter storage areas and confined spaces unless adequately ventilated. Eliminate all ignition sources. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. Workers should wash hands and face before eating, drinking and smoking.

Storage Store in accordance with local regulations. Store in a segregated and approved area. Keep container in a well-ventilated area. Store in the original container or an approved alternative made from a compatible material. Keep tightly closed when not in use. Separate from oxidizing materials. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection

Hands Use chemical-resistant, impervious gloves.

Eyes Safety eyewear should be used when there is a likelihood of exposure.

Body Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Occupational exposure limits

<u>Component</u>	<u>Source</u>	<u>Type</u>	<u>PPM</u>	<u>MG/M3</u>	<u>Notes</u>
2-Butoxyethanol	OSHA PEL	TWA	50 ppm	240 mg/m3	SKIN
	NIOSH REL	TWA	5 ppm	24 mg/m3	SKIN
	ACGIH TLV	TWA	20 ppm		
Methanol	OSHA PEL	TWA	200 ppm	260 mg/m3	
	NIOSH REL	TWA	200 ppm	260 mg/m3	SKIN
	NIOSH REL	STEL	250 ppm	325 mg/m3	SKIN
	ACGIH TLV	TWA	200 ppm	262 mg/m3	SKIN
	ACGIH TLV	STEL	250 ppm	328 mg/m3	SKIN

SKIN - Skin absorption can contribute significantly to overall exposure.

Engineering measures Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or

	dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing. Emergency baths, showers, or other equipment appropriate for the potential level of exposure should be located close to the workstation location.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid
Color	Brown.
Odor	pungent.
Odor threshold	Not available.
Boiling/condensation point	Not available.
Pour point	-40 °F (-40.0 °C)
Flash point	86 °F (30.0 °C), Pensky-Martens. Closed cup
Flammable limits	Lower: Not available. Upper: Not available.
Auto-ignition temperature	Not available.
pH	4.7 - 5.7, Method (neat)
Evaporation rate	Not available.
Solubility	Water
Vapor density	Not available.
Relative density	0.9519 - 0.9819 @ 60 °F (15.6 °C)
Vapor pressure	Not available.
Viscosity	Dynamic: 15 - 25 cPs @ 75 °F (23.9 °C)
Octanol/water partition coefficient (LogPow)	Not available.

Note: Typical values only - not to be interpreted as sales specifications

10. STABILITY AND REACTIVITY

Stability	The product is stable.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Avoid release to the environment. Refer to special instructions/safety data sheet.
Materials to avoid	oxidizing materials
Hazardous decomposition	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

products

11. TOXICOLOGICAL INFORMATION

Acute toxicity

<u>Substance</u>	<u>Test type</u>	<u>Species</u>	<u>Dose</u>
2-Butoxyethanol	LD50 Oral	Rabbit	300 mg/kg
	LD50 Oral	Rat	470 mg/kg
	LD50 Oral	Mouse	1,167 mg/kg
	LD50 Oral	Guinea pig	1,200 mg/kg
	LC50 Inhalation	Rat	450 ppm
	LC50 Inhalation	Mouse	700 ppm
	LD50 Dermal	Rabbit	220 mg/kg
Methanol	LD50 Oral	Rat	5,600 mg/kg
	LD50 Oral	Mouse	5,800 mg/kg
	LD50 Oral	Rabbit	14,200 mg/kg
	LC50 Inhalation	Mouse	41000 ppm
	LC50 Inhalation	Rat	64000 ppm
	LC50 Inhalation	Rabbit	81,000 mg/m3
	LD50 Dermal	Rabbit	15,800 mg/kg
Aromatic Amine, Mercaptoacetic Acid Salt	LD50 Oral	Rat	300 - 2,000 mg/kg
Aromatic Amines, Acetates	LD50 Oral	Rat	300 - 2,000 mg/kg

Irritation/Corrosion

Not available.

Target organ effects Methanol: Ingestion may cause blindness.

Carcinogenicity

None of the components are listed.

Mutagenicity

<u>Substance</u>	<u>Test type</u>	<u>Experiment</u>	<u>Result</u>	<u>Classification</u>
Aromatic Amine, Mercaptoacetic Acid Salt	471 Bacterial Reverse Mutation Test	In vitro; Bacteria; + & -	Negative	Non-mutagenic for bacteria and/or yeast.
Aromatic Amines, Acetates	471 Bacterial Reverse Mutation Test	In vitro; Bacteria; + & -	Negative	Non-mutagenic for bacteria and/or yeast.

12. ECOLOGICAL INFORMATION

Environmental effects Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Aquatic ecotoxicity

<u>Substance</u>	<u>Test type</u>	<u>Species</u>	<u>Result</u>
Aromatic Amine, Mercaptoacetic Acid Salt	LC50, 96 h	Fathead minnow	12 mg/l
Aromatic Amines, Acetates	LC50, 96 h	Fathead minnow	6.4 mg/l

Other adverse effects None known.

13. DISPOSAL CONSIDERATIONS

Waste disposal The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. TRANSPORT INFORMATION

Refer to the bill of lading or container label for DOT or other transportation hazard classification. Additionally, be aware that shipping descriptions may vary based on mode of transport, shipment volume or weight, container size or type, and/or origin and destination. Consult your company's Hazardous Materials / Dangerous Goods expert or your legal counsel for information specific to your situation.

15. REGULATORY INFORMATION

HCS Classification

<u>Component</u>	<u>Classification</u>
2-Butoxyethanol	Harmful., Irritant., Occupational exposure limits
Aromatic Amine, Mercaptoacetic Acid Salt	Harmful.
Aromatic Amines, Acetates	Harmful.
Alkyl Amine Surfactant, Phosphate Ester Salt	Harmful., Irritant.
Alkyl amine surfactant, acetate salt	Harmful., Irritant.
Amine-Fatty Acid Condensate, Acetate	Irritant.
Methanol	Irritant., Target organ effects, Occupational exposure limits

U.S. Federal regulations

CERCLA: Hazardous substances - Reportable quantity:

<u>Substance</u>	<u>Reportable quantity</u>
2-Butoxyethanol	N/A
Methanol	5000 lbs

<u>Product Reportable quantity</u>	<u>Substance</u>
16,666 lb, 2,070 gal US	Methanol

Product spills equal to or exceeding the threshold above trigger the reporting requirements under CERCLA for the listed hazardous substance. Report the spill or release to the National Response Center (NRC) at (800) 424-8802.

SARA Title III Section 302 Extremely hazardous substances (40 CFR Part 355):

None of the components are listed.

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:

Immediate (acute) health hazard. Delayed (chronic) health hazard. Fire hazard.

SARA 313 - Supplier notification

<u>Component</u>	<u>CAS no.</u>	<u>Weight %</u>
2-Butoxyethanol	111-76-2	1 - 5
Methanol	67-56-1	10 - 30

Clean Water Act (CWA) 307:

The following components are listed: Naphthalene.

Clean Water Act (CWA) 311:

The following components are listed: Phosphoric acid. Naphthalene.

Clean Air Act (CAA) 112 accidental release prevention:

None of the components are listed.

Clean Air Act (CAA) 112 regulated flammable substances:

None of the components are listed.

Clean Air Act (CAA) 112 regulated toxic substances:

None of the components are listed.

State regulations

Massachusetts Substances: The following components are listed: Methanol. 2-Butoxyethanol.

New Jersey Hazardous Substances: The following components are listed: 2-Butoxyethanol. Methanol.

Pennsylvania RTK Hazardous Substances: The following components are listed: 2-Butoxyethanol. Methanol.

California Prop. 65

WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

<u>Component</u>	<u>Cancer</u>	<u>Reproductive</u>	<u>No significant risk level</u>	<u>Maximum acceptable dosage level</u>
Naphthalene	Yes.	No.	5.8 µg/day	No.

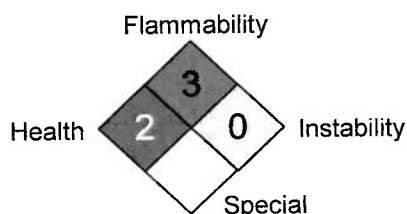
International regulations

United States inventory (TSCA 8b): All components are listed or exempted.

Canada inventory (DSL): At least one component is not listed in DSL but all such components are listed in NDSL.

16. OTHER INFORMATION

National Fire Protection Association (U.S.A.):



Prepared by	Product Stewardship (1-281-431-2561)
Date of issue	08/23/2010
Date of previous issue	08/14/2007
Version	3.0

Disclaimer

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



Effective date: 09/08/2008
Report Version 2.1

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME Emulsotron® XA-1781

PRODUCT USE Emulsion Breaker

COMPANY MAILING ADDRESS Champion Technologies, Inc.
P.O. Box 450499
Houston, TX, 77245
USA

EMERGENCY TELEPHONE NUMBERS 24 HRS. 1-800-424-9300 (CHEMTREC)
1-703-527-3887 (CHEMTREC - International)
1-613-996-6666 (CANUTEC - Canada)
1-281-431-2561 (Champion)

2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE	CAS-NO.	WEIGHT %
Xylene	1330-20-7	30.0 - 60.0
Isopropyl Alcohol	67-63-0	10.0 - 30.0
Methanol	67-56-1	10.0 - 30.0
Ethylbenzene	100-41-4	5.0 - 10.0
Heavy aromatic solvent naphtha	64742-94-5	5.0 - 10.0
Naphthalene	91-20-3	0.1 - 1.0
Toluene	108-88-3	0.1 - 1.0

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	
DANGER!	
APPEARANCE & ODOR	Amber, Liquid, Hydrocarbon
HEALTH HAZARDS	Harmful, Irritant
PHYSICAL HAZARDS	Flammable, Material may be ignited by heat, sparks or flames.
CARCINOGENICITY	This product contains a component or components which may cause cancer. See Section 11 for details.

HEALTH HAZARDS

SKIN

Harmful in contact with skin. Irritating to skin.

EYE

Irritating to eyes.

INHALATION

Harmful by inhalation. Irritating to respiratory system.

INGESTION

May be harmful if swallowed.

POTENTIAL ENVIRONMENTAL EFFECTS

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

SKIN	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
EYE	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
INHALATION	Move to fresh air. If symptoms persist, call a physician.
INGESTION	Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

FLASH POINT	57 °F (14 °C) PMCC
EXTINGUISHING MEDIA	Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
SPECIAL HAZARDS	Vapors are heavier than air and may travel considerable distance along the ground or be moved by ventilation to ignition sources. Empty product containers may contain product residue. Do not pressurize, cut, heat, weld or expose containers to flame or other sources of ignition.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS	Wear positive-pressure self-contained breathing apparatus (SCBA) and full protective fire fighting gear. Equipment should be thoroughly decontaminated after use.
HAZARDOUS COMBUSTION PRODUCTS	Combustion products may include carbon monoxide, carbon dioxide and nitrogen oxides.
FIRE FIGHTING / FURTHER ADVICE	Evacuate area and fight fire from safe distance. Use water spray to cool fire exposed structures and to protect personnel. Shut off source of flow if possible. If a leak or spill has not ignited, use water spray to disperse the vapors.

6. ACCIDENTAL RELEASE MEASURES

CLEAN UP METHODS	Eliminate all ignition sources. No flares, smoking or flames in hazard area. Stop leak if you can do it without risk. Liquids may need to be neutralized before collection begins. Take up spill with sand or other noncombustible absorbent material and place in containers for later disposal. Always wear proper personal protective equipment when addressing spill or leak.
ENVIRONMENTAL PRECAUTIONS	Prevent product from entering drains (waterways). Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

7. HANDLING AND STORAGE

GENERAL PRECAUTIONS	Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of material from eyes, skin and clothing. Wash thoroughly after handling. Avoid breathing vapor. Use only with adequate ventilation. Keep away from heat and sources of ignition. Take precautionary measures against static discharges.
STORAGE	Keep container closed when not in use. Store in cool, dry place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS					
NAME	SOURCE	TYPE	PPM	MG/M3	NOTATION
Xylene	ACGIH	TWA	100		
		STEL	150		
	OSHA	TWA	100	435	
		PEL	100	435	
	NIOSH	STEL	150	655	
		REL	100	435	
Isopropyl Alcohol	NIOSH	REL	400	980	
		STEL	500	1,225	
	OSHA	PEL	400	980	
		TWA	200		
	ACGIH	STEL	400		
Methanol	ACGIH	TWA	200		
		STEL	250		
	NIOSH	SKIN			*
		REL	200	260	
	OSHA	STEL	250	325	
		SKIN			*
Ethylbenzene	ACGIH	PEL	200	260	
	ACGIH	TWA	100		
		STEL	125		
	NIOSH	REL	100	435	
		STEL	125	545	
Naphthalene	OSHA	PEL	100	435	
	ACGIH	TWA	10		
		STEL	15		
	NIOSH	SKIN			*
		REL	10	50	
Toluene	OSHA	STEL	15	75	
		PEL	10	50	
	ACGIH	TWA	20		
		REL	100	375	
	NIOSH	STEL	150	560	
	OSHA	TWA	200		
		Ceiling	300		
		MAX	500		
		CONC			

* = Can be absorbed through the skin.

ENGINEERING MEASURES

Provide general and/or local exhaust ventilation, process enclosures or other engineering controls to control airborne levels below exposure guidelines.

RESPIRATORY

When respiratory protection is required, use an approved air purifying

PROTECTION	respirator or positive-pressure supplied-air respirator depending on potential airborne concentration.
HAND PROTECTION	Wear chemical-resistant gloves to prevent skin contact. Glove/protective clothing suppliers can provide recommendations for your specific applications. Wash immediately if skin is contaminated. Good personal hygiene practices such as properly handling contaminated clothing, using wash facilities before eating, drinking or smoking are essential for preventing personal chemical contamination. Contaminated gloves should be replaced.
EYE PROTECTION	Use chemical splash goggles, safety glasses and/or face shield. An emergency eye wash fountain should be located in immediate work area.
BODY PROTECTION	Emergency baths, showers, or other equipment appropriate for the potential level of exposure should be located in the immediate work area. Remove contaminated clothing, wash skin with soap and water and launder clothing before reuse or dispose of properly.

9. PHYSICAL AND CHEMICAL PROPERTIES

FORM	Liquid
COLOR	Amber
ODOR	Hydrocarbon
ODOR THRESHOLD	Not available
BOILING POINT	Not available
POUR POINT	-40 °F (-40 °C)
FLASH POINT	57 °F (14 °C) PMCC
LOWER EXPLOSION LIMIT	Not available
UPPER EXPLOSION LIMIT	Not available
AUTOIGNITION TEMPERATURE	Not available
EVAPORATION RATE	Not available
pH	4.0 - 6.8
SOLUBILITY	Oil
RELATIVE VAPOR DENSITY (AIR = 1)	Not available
SPECIFIC GRAVITY (H₂O = 1)	0.8488 - 0.8788 @ 60 °F (16 °C)
VAPOR PRESSURE	Not available
VISCOSITY	1 - 10 cPs
PARTITION COEFFICIENT (N-OCTANOL/WATER)	Not available

Note: Typical values only - not to be interpreted as sales specifications

10. STABILITY AND REACTIVITY

STABILITY	Stable
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CONDITIONS TO AVOID	Open flames, Sparks
MATERIALS TO AVOID	Strong oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS	Oxides of carbon
HAZARDOUS POLYMERIZATION	Will not occur

11. TOXICOLOGICAL INFORMATION

No data is available on the product itself.

SUBSTANCE	TEST TYPE	RESULT
ADDITIONAL TOXICOLOGICAL INFORMATION		
Heavy aromatic solvent naphtha		Frequent or prolonged contact with product may defat and dry the skin, leading to discomfort and dermatitis.

SUBSTANCE	SOURCE	GROUP	LIST ATTRIBUTE
CARCINOGENICITY			
Xylene	IARC	3	Classification not possible from current data.
Isopropyl Alcohol Ethylbenzene	ACGIH	Group A4	Not classifiable as a human carcinogen.
	ACGIH	Group A4	Not classifiable as a human carcinogen.
	ACGIH	Group A3	Confirmed animal carcinogen with unknown relevance to humans.
Naphthalene	IARC	2B	Possible carcinogen.
	ACGIH	Group A4	Not classifiable as a human carcinogen.
	IARC	2B	Possible carcinogen.
Toluene	NTP CARC		Anticipated carcinogen.
	ACGIH	Group A4	Not classifiable as a human carcinogen.
	IARC	3	Classification not possible from current data.

TARGET ORGAN TOXICITY

Methanol Ingestion may cause blindness.

12. ECOLOGICAL INFORMATION

No data is available on the product itself.

13. DISPOSAL CONSIDERATIONS

ADVICE ON DISPOSAL Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

Refer to the bill of lading or container label for DOT or other transportation hazard classification. Additionally, be aware that shipping descriptions may vary based on mode of transport, shipment volume

or weight, container size or type, and/or origin and destination. Consult your company's Hazardous Materials / Dangerous Goods expert or your legal counsel for information specific to your situation.

15. REGULATORY INFORMATION

FEDERAL REGULATORY STATUS

SARA HAZARD CATEGORY 1 - Acute, 2 - Chronic, 3 - Fire

CERCLA

SUBSTANCE	REPORTABLE QUANTITY
Xylene	100 lbs
Methanol	5000 lbs
Ethylbenzene	1000 lbs
Naphthalene	100 lbs
Toluene	1000 lbs

TSCA

This product contains a substance subject to TSCA Section 12(b) Export Notification Requirements. The exporter must submit a notice.

STATE REGULATORY STATUS

CALIFORNIA PROPOSITION 65

KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

Ethylbenzene	7.4%
Naphthalene	0.5686%
Benzene	0.0185%

KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

Toluene	0.333%
Benzene	0.0185%

STATE RIGHT TO KNOW

NEW JERSEY RIGHT-TO-KNOW CHEMICAL LIST

Ethylbenzene
Isopropyl Alcohol
Methanol
Naphthalene
Toluene
1,2,4-Trimethylbenzene
Xylene
Benzene

MASSACHUSETTS RIGHT-TO-KNOW CHEMICAL LIST

Organic Acid
Ethylbenzene
Isopropyl Alcohol
Methanol
Naphthalene
Toluene

1,2,4-Trimethylbenzene
Xylene
Benzene

PENNSYLVANIA RIGHT-TO-KNOW CHEMICAL LIST

Organic Acid
Ethylbenzene
Isopropyl Alcohol
Methanol
Naphthalene
Toluene
1,2,4-Trimethylbenzene
Xylene
Benzene

INVENTORY STATUS**NOTIFICATION STATUS****TSCA**

Listed or Exempt

16. OTHER INFORMATION**NFPA RATING**

HEALTH	2
FLAMMABILITY	3
INSTABILITY	0

Prepared By: Product Stewardship
Preparation Date: 09/08/2008

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Material Safety Data Sheet

Scortron® GR-164

1. PRODUCT AND COMPANY IDENTIFICATION

Product name Scortron® GR-164

Product use Scale Inhibitor
Corrosion Inhibitor

Manufacturer Champion Technologies, Inc.
P.O. Box 450499
Houston, TX, 77245
USA

Telephone 1-281-431-2561 (Champion)

In case of emergency 1-800-424-9300 (CHEMTREC)
1-703-527-3887 (CHEMTREC - International)

2. HAZARDS IDENTIFICATION

Physical state liquid

Color Clear. Amber.

Odor slight, sweet

Emergency overview WARNING!
Flammable. Harmful. Irritant. Keep away from heat, sparks and flame.

Potential health effects

Inhalation Possible risk of irreversible effects.

Ingestion Possible risk of irreversible effects. Irritating to mouth, throat and stomach.

Skin Possible risk of irreversible effects. Irritating to skin.

Eyes Irritating to eyes.

Chronic effects No known significant effects or critical hazards.

See toxicological information (section 11)

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Name</u>	<u>CAS no.</u>	<u>Weight %</u>
Methanol	67-56-1	10 - 30
Ethylene Glycol	107-21-1	1 - 5
Amine Phosphonate 7	Proprietary	1 - 5
Amine-Fatty Acid Condensate, Acetate	Proprietary	1 - 5
Nonylphenol ethoxylate	Proprietary	1 - 5
Alkyl amine surfactant, acetate salt	Proprietary	1 - 5
Alkyl Amine Surfactant, Phosphate Ester Salt	Proprietary	1 - 5
Aromatic Amines, Acetates	Proprietary	1 - 5
Ammonium Chloride	12125-02-9	1 - 5
Amine Phosphonate 7, Alkyl Amine Salt	Proprietary	5 - 10

4. FIRST AID MEASURES

Eye contact Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention.

Skin contact Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes.

Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
Ingestion	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention. Never give anything by mouth to an unconscious person.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
Notes to physician	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. FIRE-FIGHTING MEASURES

Flash point	> 82 °F (> 27.8 °C)
Flammability of the product	Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
<u>Extinguishing media</u>	
Suitable	Use dry chemical, CO ₂ , water spray (fog) or foam.
Not suitable	Do not use water jet.
Special exposure hazards	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. This material is toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous combustion products	carbon dioxide, carbon monoxide, nitrogen oxides, phosphorus oxides, halogenated compounds
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Special remarks on fire hazards	Not available.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
Environmental precautions	Avoid contact of spilled material with soil and prevent runoff entering surface waterways. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Methods for cleaning up

Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.
Large spill	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. HANDLING AND STORAGE

Handling	Use only with adequate ventilation. Put on appropriate personal protective equipment (see section 8). Wear appropriate respirator when ventilation is inadequate. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. Do not enter storage areas and confined spaces unless adequately ventilated. Eliminate all ignition sources. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. Workers should wash hands and face before eating, drinking and smoking.
Storage	Store in accordance with local regulations. Store in a segregated and approved area. Keep container in a well-ventilated area. Store in the original container or an approved alternative made from a compatible material. Keep tightly closed when not in use. Separate from oxidizing materials. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection

Hands	Use chemical-resistant, impervious gloves.
Eyes	Safety eyewear should be used when there is a likelihood of exposure.
Body	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory	If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Occupational exposure limits

<u>Component</u>	<u>Source</u>	<u>Type</u>	<u>PPM</u>	<u>MG/M3</u>	<u>Notes</u>
Methanol	OSHA PEL	TWA	200 ppm	260 mg/m3	
	NIOSH REL	TWA	200 ppm	260 mg/m3	SKIN
	NIOSH REL	STEL	250 ppm	325 mg/m3	SKIN
	ACGIH TLV	TWA	200 ppm	262 mg/m3	SKIN
	ACGIH TLV	STEL	250 ppm	328 mg/m3	SKIN
Ethylene Glycol	NIOSH REL				
	ACGIH TLV	CEIL		100 mg/m3	
Ammonium Chloride					
	NIOSH REL	TWA		10 mg/m3	

NIOSH REL	STEL	20 mg/m3
ACGIH TLV	TWA	10 mg/m3
ACGIH TLV	STEL	20 mg/m3

SKIN - Skin absorption can contribute significantly to overall exposure.

Engineering measures	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing. Emergency baths, showers, or other equipment appropriate for the potential level of exposure should be located close to the workstation location.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid
Color	Clear. Amber.
Odor	slight, sweet
Odor threshold	Not available.
Boiling/condensation point	Not available.
Pour point	-40 °F (-40.0 °C)
Flash point	> 82 °F (> 27.8 °C)
Flammable limits	Lower: Not available. Upper: Not available.
Auto-ignition temperature	Not available.
pH	4.7 - 5.7, Method (neat)
Evaporation rate	Not available.
Solubility	Water
Vapor density	Not available.
Relative density	0.9751 - 1.0052 @ 68 °F (20.0 °C)
Vapor pressure	Not available.
Viscosity	Dynamic: 1 - 10 cPs @ 68 °F (20.0 °C)
Octanol/water partition coefficient (LogPow)	Not available.

Note: Typical values only - not to be interpreted as sales specifications

10. STABILITY AND REACTIVITY

Stability	The product is stable.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Avoid release to the environment. Refer to special instructions/safety data sheet.
Materials to avoid	oxidizing materials
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

<u>Substance</u>	<u>Test type</u>	<u>Species</u>	<u>Dose</u>	<u>Classification</u>
Methanol	LD50 Oral	Rat	5,600 mg/kg	Not applicable
	LD50 Oral	Mouse	5,800 mg/kg	Not applicable
	LD50 Oral	Rabbit	14,200 mg/kg	Not applicable
	LC50 inhalation	Mouse	41000 ppm	Not applicable
	LC50 inhalation	Rat	64000 ppm	Not applicable
	LC50 inhalation	Rabbit	81,000 mg/m3	Not applicable
	LD50 Dermal	Rabbit	15,800 mg/kg	Not applicable
Ethylene Glycol	LD50 Oral	Rat	4,700 mg/kg	Not applicable
	LD50 Oral	Mouse	5,500 mg/kg	Not applicable
	LD50 Oral	Guinea pig	6,610 mg/kg	Not applicable
	LC50 inhalation	Rat	> 200 mg/l	Not applicable
Aromatic Amines, Acetates	LD50 Oral	Rat	300 - 2,000 mg/kg	Not applicable
Ammonium Chloride	LD50 Oral	Mouse	1,300 mg/kg	Not applicable
	LD50 Oral	Rat	1,650 mg/kg	Not applicable

Irritation/Corrosion

Not available.

Target organ effects Methanol: Ingestion may cause blindness.

Carcinogenicity

None of the components are listed.

Mutagenicity

<u>Substance</u>	<u>Test type</u>	<u>Experiment</u>	<u>Result</u>	<u>Classification</u>
Aromatic Amines, Acetates	471 Bacterial Reverse Mutation Test	In vitro; Bacteria; with and without	Negative	Not applicable

Teratogenicity

<u>Substance</u>	<u>Test type</u>	<u>Species</u>	<u>Dose</u>	<u>Classification</u>
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12. ECOLOGICAL INFORMATION

Environmental effects Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Aquatic ecotoxicity

<u>Substance</u>	<u>Test type</u>	<u>Species</u>	<u>Result</u>	<u>Classification</u>
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Aromatic Amines, Acetates

LC50, 96 h

Fathead minnow

6.4 mg/l

Not applicable

Conclusion/Summary

Not available.

Other adverse effects

No known significant effects or critical hazards.

13. DISPOSAL CONSIDERATIONS

Waste disposal

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. TRANSPORT INFORMATION

Refer to the bill of lading or container label for DOT or other transportation hazard classification. Additionally, be aware that shipping descriptions may vary based on mode of transport, shipment volume or weight, container size or type, and/or origin and destination. Consult your company's Hazardous Materials / Dangerous Goods expert or your legal counsel for information specific to your situation.

15. REGULATORY INFORMATION

HCS Classification

Component

Methanol
Amine Phosphonate 7, Alkyl Amine Salt
Ethylene Glycol
Amine-Fatty Acid Condensate, Acetate
Nonylphenol ethoxylate
Amine Phosphonate 7
Alkyl amine surfactant, acetate salt
Alkyl Amine Surfactant, Phosphate Ester Salt
Aromatic Amines, Acetates
Ammonium Chloride

Classification

Irritant., Target organ effects, Occupational exposure limits
Harmful., Irritant.
Harmful., Occupational exposure limits
Irritant.
Irritant.
Irritant.
Harmful., Irritant.
Harmful., Irritant.
Harmful.
Harmful., Irritant., Occupational exposure limits

U.S. Federal regulations

CERCLA: Hazardous substances - Reportable quantity:

Substance

Methanol
Ethylene Glycol
Ammonium Chloride

Reportable quantity

5000 lbs
5000 lbs
5000 lbs

Product Reportable quantity

18,407 lb, 2,232 gal US

Substance

Methanol

Product spills equal to or exceeding the threshold above trigger the reporting requirements under CERCLA for the listed hazardous substance. Report the spill or release to the National Response Center (NRC) at (800) 424-8802.

SARA Title III Section 302 Extremely hazardous substances (40 CFR Part 355):

None of the components are listed.

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:

Immediate (acute) health hazard. Delayed (chronic) health hazard. Fire hazard.

SARA 313 - Supplier notification

<u>Component</u>	<u>CAS no.</u>	<u>Weight %</u>
Methanol	67-56-1	10 - 30
Ethylene Glycol	107-21-1	1 - 5
Ammonium Chloride	12125-02-9	1 - 5

Clean Water Act (CWA) 307:

The following components are listed: Naphthalene.

Clean Water Act (CWA) 311:

The following components are listed: Formaldehyde. Naphthalene. Sulfuric acid. Ammonium Chloride.

Clean Air Act (CAA) 112 accidental release prevention:

The following components are listed: Formaldehyde. Sulfur dioxide. Ethylene oxide.

Clean Air Act (CAA) 112 regulated flammable substances:

None of the components are listed.

Clean Air Act (CAA) 112 regulated toxic substances:

None of the components are listed.

State regulations

Massachusetts Substances: The following components are listed: Methanol. Ethylene Glycol. Ammonium Chloride.

New Jersey Hazardous Substances: The following components are listed: Ammonium Chloride. Ethylene Glycol. Methanol.

Pennsylvania RTK Hazardous Substances: The following components are listed: Ammonium Chloride. Ethylene Glycol. Methanol.

California Prop. 65

WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

<u>Component</u>	<u>Cancer</u>	<u>Reproductive</u>	<u>No significant risk level</u>	<u>Maximum acceptable dosage level</u>
Formaldehyde	Yes.	No.	40 µg/day	No.
Naphthalene	Yes.	No.	5.8 µg/day	No.
Ethylene oxide	Yes.	Yes.	2 µg/day	No.
	Yes.	Yes.	No.	20 µg/day

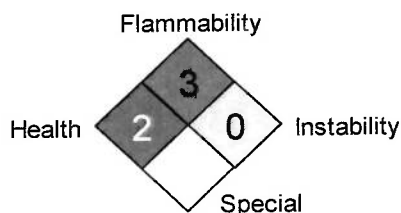
International regulations

United States inventory (TSCA 8b): All components are listed or exempted.

Canada inventory (DSL): Not determined.

16. OTHER INFORMATION

National Fire Protection Association (U.S.A.):



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Prepared by Product Stewardship

Disclaimer

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Material Safety Data Sheet

Emulsotron® X-203

1. PRODUCT AND COMPANY IDENTIFICATION

Product name Emulsotron® X-203
Product use Emulsion Breaker
Manufacturer Champion Technologies, Inc.
P.O. Box 450499
Houston, TX, 77245
USA
Telephone 1-281-431-2561 (Champion)
In case of emergency 1-800-424-9300 (CHEMTREC)
1-703-527-3887 (CHEMTREC - International)

2. HAZARDS IDENTIFICATION

Physical state liquid
Color Amber.
Odor Hydrocarbon.
Emergency overview DANGER!
Flammable. Harmful. Irritant. Keep away from heat, sparks and flame. Contains material which may cause cancer. See toxicological information (section 11)

Potential health effects

Inhalation Vapors may cause drowsiness and dizziness.
Ingestion Irritating to mouth, throat and stomach.
Skin Irritating to skin.
Eyes Irritating to eyes.
Chronic effects Possible risk of harm to the unborn child. Harmful: danger of serious damage to health by prolonged exposure through inhalation.
Medical conditions aggravated by over-exposure Pre-existing skin disorders may be aggravated by over-exposure to this product.

See toxicological information (section 11)

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Name</u>	<u>CAS no.</u>	<u>Weight %</u>
Isopropyl Alcohol	67-63-0	10 - 30
Toluene	108-88-3	10 - 30
Light aromatic solvent naphtha	64742-95-6	5 - 10
Methanol	67-56-1	1 - 5
1,2,4-Trimethylbenzene	95-63-6	1 - 5
Heavy aromatic solvent naphtha	64742-94-5	1 - 5
Naphthalene	91-20-3	1 - 5

4. FIRST AID MEASURES

Eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention.
Skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention.
Inhalation	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
Ingestion	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention. Never give anything by mouth to an unconscious person.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
Notes to physician	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. FIRE-FIGHTING MEASURES

Flash point	40 °F (4.4 °C), Pensky-Martens. Closed cup
Flammability of the product	Highly flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

Extinguishing media

Suitable	Use dry chemical, CO ₂ , water spray (fog) or foam.
Not suitable	Do not use water jet.
Special exposure hazards	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. This material is toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous combustion products	carbon dioxide, carbon monoxide, halogenated compounds
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Special remarks on fire hazards	Not available.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
Environmental precautions	Avoid contact of spilled material with soil and prevent runoff entering surface waterways. Inform the relevant authorities if the product has caused environmental pollution (sewers,

waterways, soil or air). Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Methods for cleaning up

Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.
Large spill	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. HANDLING AND STORAGE

Handling	Use only with adequate ventilation. Put on appropriate personal protective equipment (see section 8). Wear appropriate respirator when ventilation is inadequate. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Avoid breathing vapor or mist. Avoid release to the environment. Do not enter storage areas and confined spaces unless adequately ventilated. Eliminate all ignition sources. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. Workers should wash hands and face before eating, drinking and smoking.
Storage	Store in accordance with local regulations. Store in a segregated and approved area. Keep container in a well-ventilated area. Store in the original container or an approved alternative made from a compatible material. Keep tightly closed when not in use. Separate from oxidizing materials. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection

Hands	Use chemical-resistant, impervious gloves.
Eyes	Safety eyewear should be used when there is a likelihood of exposure.
Body	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory	If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Occupational exposure limits

<u>Component</u>	<u>Source</u>	<u>Type</u>	<u>PPM</u>	<u>MG/M3</u>	<u>Notes</u>
Isopropyl Alcohol	OSHA PEL	TWA	400 ppm	980 mg/m3	
	NIOSH REL	TWA	400 ppm	980 mg/m3	
	NIOSH REL	STEL	500 ppm	1,225 mg/m3	
	ACGIH TLV	TWA	200 ppm		
	ACGIH TLV	STEL	400 ppm		
Toluene					

	OSHA PEL Z2	TWA	200 ppm		
	OSHA PEL Z2	CEIL	300 ppm		
	OSHA PEL Z2	CEIL	500 ppm		
	NIOSH REL	TWA	100 ppm	375 mg/m3	
	NIOSH REL	STEL	150 ppm	560 mg/m3	
	ACGIH TLV	TWA	20 ppm		
Methanol					
	OSHA PEL	TWA	200 ppm	260 mg/m3	
	NIOSH REL	TWA	200 ppm	260 mg/m3	SKIN
	NIOSH REL	STEL	250 ppm	325 mg/m3	SKIN
	ACGIH TLV	TWA	200 ppm	262 mg/m3	SKIN
	ACGIH TLV	STEL	250 ppm	328 mg/m3	SKIN
1,2,4-Trimethylbenzene					
	NIOSH REL	TWA	25 ppm	125 mg/m3	
	ACGIH TLV	TWA	25 ppm	123 mg/m3	
Naphthalene					
	OSHA PEL	TWA	10 ppm	50 mg/m3	
	NIOSH REL	TWA	10 ppm	50 mg/m3	
	NIOSH REL	STEL	15 ppm	75 mg/m3	
	ACGIH TLV	TWA	10 ppm	52 mg/m3	
	ACGIH TLV	STEL	15 ppm	79 mg/m3	

SKIN - Skin absorption can contribute significantly to overall exposure.

Engineering measures	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing. Emergency baths, showers, or other equipment appropriate for the potential level of exposure should be located close to the workstation location.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid
Color	Amber.
Odor	Hydrocarbon.
Odor threshold	Not available.
Boiling/condensation point	Not available.
Pour point	-30 °F (-34.4 °C)
Flash point	40 °F (4.4 °C), Pensky-Martens. Closed cup
Flammable limits	Lower: Not available. Upper: Not available.
Auto-ignition temperature	Not available.
pH	4.5 - 7.0, Method (10% in 3:1 IPA/DI H2O)
Evaporation rate	Not available.

Solubility	oil
Vapor density	Not available.
Relative density	0.9345 - 0.9645 @ 60 °F (15.6 °C)
Vapor pressure	Not available.
Viscosity	Dynamic: 5 - 25 cPs @ 75 °F (23.9 °C)
Octanol/water partition coefficient (LogPow)	Not available.

Note: Typical values only - not to be interpreted as sales specifications

10. STABILITY AND REACTIVITY

Stability	The product is stable.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Avoid exposure during pregnancy. Avoid release to the environment. Refer to special instructions/safety data sheet.
Materials to avoid	oxidizing materials
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

<u>Substance</u>	<u>Test type</u>	<u>Species</u>	<u>Dose</u>
Isopropyl Alcohol	LD50 Oral	Mouse	3,600 mg/kg
	LD50 Oral	Rat	5,000 mg/kg
	LD50 Oral	Rabbit	6,410 mg/kg
	LC50 Inhalation	Rat	72,600 mg/m3
	LD50 Dermal	Rabbit	12,800 mg/kg
Toluene	LD50 Oral	Rat	636 mg/kg
	LC50 Inhalation	Rat	8000 ppm
	LC50 Inhalation	Mouse	30,000 mg/m3
	LD50 Dermal	Rabbit	14,100 mg/kg
Light aromatic solvent naphtha	LD50 Oral	Rat	8,400 mg/kg
Methanol	LD50 Oral	Rat	5,600 mg/kg
	LD50 Oral	Mouse	5,800 mg/kg
	LD50 Oral	Rabbit	14,200 mg/kg
	LC50 Inhalation	Mouse	41000 ppm
	LC50 Inhalation	Rat	64000 ppm
	LC50 Inhalation	Rabbit	81,000 mg/m3
	LD50 Dermal	Rabbit	15,800 mg/kg
1,2,4-Trimethylbenzene	LD50 Oral	Rat	5,000 mg/kg
	LD50 Oral	Mouse	6,900 mg/kg

Heavy aromatic solvent naphtha	LC50 Inhalation	Rat	18,000 mg/m3
	LD50 Oral	Rat	> 5,000 mg/kg
	LC50 Inhalation	Rat	> 590 mg/m3
	LD50 Dermal	Rabbit	> 2,000 mg/kg
Naphthalene	LD50 Oral	Mouse	316 mg/kg
	LD50 Oral	Rat	490 mg/kg
	LD50 Oral	Guinea pig	1,200 mg/kg
	LC50 Inhalation	Rat	340 mg/m3
	LD50 Dermal	Rabbit	2,000 mg/kg
	LD50 Dermal	Rat	2,500 mg/kg

Irritation/Corrosion

Not available.

Target organ effects

Light aromatic solvent naphtha: Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Methanol: Ingestion may cause blindness.

Heavy aromatic solvent naphtha: Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity

Component

IARC

NTP

OSHA

Naphthalene

2B

Possible

- 2B - IARC Group 2B, possibly carcinogenic to humans
Possible - NTP reasonably anticipated to be carcinogenic

12. ECOLOGICAL INFORMATION

Environmental effects Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Other adverse effects None known.

13. DISPOSAL CONSIDERATIONS

Waste disposal The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. TRANSPORT INFORMATION

Refer to the bill of lading or container label for DOT or other transportation hazard classification. Additionally, be aware that shipping descriptions may vary based on mode of transport, shipment volume or weight, container size or type, and/or origin and destination. Consult your company's Hazardous Materials / Dangerous Goods expert or your legal counsel for information specific to your situation.

15. REGULATORY INFORMATION

HCS Classification

<u>Component</u>	<u>Classification</u>
Naphthalene	Carcinogen, Harmful., Occupational exposure limits
Heavy aromatic solvent naphtha	Harmful.
1,2,4-Trimethylbenzene	Harmful., Irritant., Occupational exposure limits
Methanol	Irritant., Target organ effects, Occupational exposure limits
Light aromatic solvent naphtha	Harmful.
Toluene	Harmful., Irritant., Target organ effects, Occupational exposure limits
Isopropyl Alcohol	Irritant., Occupational exposure limits

U.S. Federal regulations

CERCLA: Hazardous substances - Reportable quantity:

<u>Substance</u>	<u>Reportable quantity</u>
Toluene	1000 lbs
Methanol	5000 lbs
Naphthalene	100 lbs

<u>Product Reportable quantity</u>	<u>Substance</u>
4,806 lb, 609 gal US	Naphthalene

Product spills equal to or exceeding the threshold above trigger the reporting requirements under CERCLA for the listed hazardous substance. Report the spill or release to the National Response Center (NRC) at (800) 424-8802.

SARA Title III Section 302 Extremely hazardous substances (40 CFR Part 355):

None of the components are listed.

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:

Immediate (acute) health hazard. Delayed (chronic) health hazard. Fire hazard.

SARA 313 - Supplier notification

<u>Component</u>	<u>CAS no.</u>	<u>Weight %</u>
Isopropyl Alcohol	67-63-0	10 - 30
Toluene	108-88-3	10 - 30
Methanol	67-56-1	1 - 5
1,2,4-Trimethylbenzene	95-63-6	1 - 5
Naphthalene	91-20-3	1 - 5

Clean Water Act (CWA) 307:

The following components are listed: Toluene. Naphthalene. Benzene.

Clean Water Act (CWA) 311:

The following components are listed: Toluene. Naphthalene. Xylene. Potassium hydroxide. Benzene.

Clean Air Act (CAA) 112 accidental release prevention:

None of the components are listed.

Clean Air Act (CAA) 112 regulated flammable substances:

None of the components are listed.

Clean Air Act (CAA) 112 regulated toxic substances:

None of the components are listed.

TSCA 12(b) one-time export:

The following components are listed: Naphthalene.

State regulations

Massachusetts Substances: The following components are listed: Naphthalene. 1,2,4-Trimethylbenzene. Isopropyl Alcohol. Toluene. Methanol.

New Jersey Hazardous Substances: The following components are listed: Naphthalene. 1,2,4-Trimethylbenzene. Methanol. Toluene. Isopropyl Alcohol.

Pennsylvania RTK Hazardous Substances: The following components are listed: 1,2,4-Trimethylbenzene. Methanol. Naphthalene. Isopropyl Alcohol. Toluene.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

<u>Component</u>	<u>Cancer</u>	<u>Reproductive</u>	<u>No significant risk level</u>	<u>Maximum acceptable dosage level</u>
Toluene	No.	Yes.	No.	13000 µg/day
	No.	Yes.	No.	7000 µg/day
Naphthalene	Yes.	No.	5.8 µg/day	No.
Benzene	Yes.	Yes.	6.4 µg/day	No.
	Yes.	Yes.	No.	24 µg/day
	Yes.	Yes.	No.	49 µg/day
	Yes.	Yes.	13 µg/day	No.

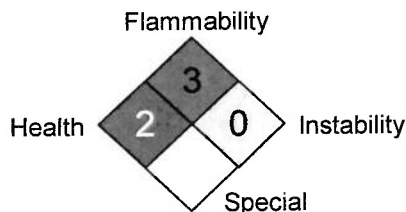
International regulations

United States inventory (TSCA 8b): All components are listed or exempted.

Canada inventory (DSL): All components are listed or exempted.

16. OTHER INFORMATION

National Fire Protection Association (U.S.A.):



Prepared by Product Stewardship (1-281-431-2561)
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Disclaimer

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



Material Safety Data Sheet

Section I - Chemical Product and Company Identification

Material Name: HALT 11
Chemical Family: Carboxylic Acid Solution
CAS Reg. No: NA, Blend
Distributor: Danlin Industries Corporation
Physical Address: ½ miles West of Thomas on Hwy 47
 Thomas, OK 73669
Mailing Address: P.O. Box 409
 Thomas, OK 73669-0409
Phone Number: (580) 661-3248
Prepared By: Danlin Industries Corporation
Emergency Number: (800) 424-9300 CHEMTREC
Date Issued: January 15, 2004

HMIS Rating: 2-2-1-H

Section II - Hazardous Ingredients

Components	Wt. %	CAS #	OSHA		ACGIH		OTHER
			PEL	STEL	TWA	STEL	
Acetic Acid	41.2	64-19-7	10 ppm	15 ppm	10 ppm	15 ppm	RQ 5,000 lbs

Section III - Hazards Identification

Emergency Overview: CAUTION!
 CORROSIVE LIQUID.
 VAPORS OR LIQUID MAY BE IRRITATING TO LUNGS, EYE, SKIN, AND MUCOUS
 MEMBRANES. AVOID INHALATION AND EYE OR SKIN CONTACT.

Primary Routes of Exposure: EYE CONTACT, SKIN ABSORPTION AND CONTACT, INHALATION

Eye Contact: May cause eye irritation, burns, irreversible damage.

Skin Contact: May cause skin irritation and tissue destruction. Severity of damage increases with contact time. Prolonged contact may cause dermatitis sensitization.

Inhalation: May cause irritation of respiratory tract, coughing, chest pain, decreased breathing capacity and and severe damage.

Ingestion: May cause severe damage, pain, vomiting, circulatory collapse, tissue perforation, erosion of teeth.

Target Organs: Mucous membranes, lungs, gastrointestinal tract, teeth, upper respiratory system, mouth, thyroid

Overexposure: May aggravate disorders of the skin, eyes, and respiratory system.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

Section IV - First Aid Measures

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, while holding eyelids apart to ensure flushing of entire surface. Get immediate medical attention.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes, while removing contaminated clothing, including shoes. Thoroughly clean clothing and shoes before reuse. Get medical attention.

Inhalation: Remove to fresh air. Give artificial respiration if not breathing. Give oxygen if breathing is difficult. Keep victim warm and Get immediate medical attention.

Ingestion: If swallowed, do not induce vomiting. Rinse mouth with water. Dilute stomach contents by drinking water. If spontaneous vomiting occurs, keep victims head below knee level to prevent vomit from aspiration into lungs. Get immediate medical attention. **NOTE:** Never give anything by mouth to an unconscious person.

NOTES TO PHYSICIAN:

Section V - Fire Fighting Measures

Flash Point, °F, (Setaflash) 141

Lower Flammability Limits N/D

Upper Flammability Limits N/D

Extinguishing Media Agents approved for Class B hazards, ie. water fog, foam, dry chemical, carbon dioxide

Special Fire Fighting Procedures. Do not enter confined space without full bunker gear and self contained breathing apparatus. Treat as Class B oil fire. Keep sealed containers cool with water spray.

Unusual Fire and Explosion Hazards Flammable Liquid. Vapors are heavier than air and may collect in low areas. Vapor may explode if ignited in enclosed area. Containers may explode from internal pressure if confined to fire. Cool with water.

Section VI - Accidental Release Measures

Steps To Be Taken In Case Material is Released or Spilled: Responders should wear PPE. Evacuate all unnecessary personnel from area. Remove or shut off all sources of ignition. Increase ventilation if possible. Stop leak if possible. Use non-sparking tools. Spilled material should be contained and neutralized with hydrated lime, soda ash, or sodium bicarbonate and removed by mechanical means, such as, absorbing with inert material and placing it in a properly labeled waste receptacle or reclaimed and recycled. Do not let run off water go to lakes, streams, etc.

Section VII - Handling and Storage

Precautions To Be Taken In Handling and Storing: Use appropriate PPE as outlined in Section VIII. Keep away from ignition sources (eg., heat, sparks, flames, etc.). Keep container closed. Ground and bond containers when transferring liquids. Use with adequate ventilation. Do not breathe vapors. Do not cut, puncture, or weld on or near this container.

Store away from oxidizer or other materials bearing a yellow "D.O.T." label.

Section VIII - Exposure Controls/Personal Protective Measures

Respiratory Protection: Use OSHA/NIOSH/MSHA approved air purifying respirator for organic acid vapors or supplied air respirator. Entry into confined space requires self contained positive breathing apparatus.

Ventilation:

Local Exhaust:	Yes, equal to fresh air
Mechanical Exhaust:	Exhaust fan recommended to control exposure levels.
Special:	Control airborne concentrations below exposure guidelines.

Personal Protective Equipment: Face shield, chemical splash goggles (Do Not Wear Contact Lenses when working with chemicals). Impervious gloves (Butyl Rubber, Neoprene, Viton), chemical resistant footwear, and chemical resistant aprons are recommended when handling the product.

Other Protective Equipment: Eye wash and safety showers should be readily available

Work and Hygienic Practices: Avoid breathing chemicals, wash hands before eating, drinking or smoking

Section IX - Physical and Chemical Properties

Appearance/odor:	Clear water amber to yellow liquid with strong vinegar odor	pH:	<2
State:	liquid	Boiling Point:	N/D
Specific Gravity:	1.01 to 1.02	Evaporation Rate:	N/D
Solubility in Water:	Complete	Viscosity:	N/D
Melting Point:	N/D	Vapor Density:	N/D
Vapor Pressure:	N/D		

Section X - Stability and Reactivity

Chemical Stability	Stable
Conditions to Avoid	Ignition sources, eg., sparks and flame
Incompatible Materials	Strong oxidizing agents (chromic acid, sodium peroxide, & nitric acid, etc.) and strong bases Corrosive to metals
Decomposition Products	Thermal Decomposition: Carbon dioxide, carbon monoxide, smoke
Hazardous Polymerization	Will not occur

Section XI - Toxicological Information

No specific toxicity tests have been conducted on this product. Components have shown to be toxic.

ACETIC ACID - A human poison by an unspecified route. Moderately toxic by various routes. A severe eye and skin irritant. Can cause burns, lachrymation, and conjunctivitis. Human systemic effects by ingestion: changes in the esophagus, ulceration, or bleeding from the small and large intestines. Human systemic irritant effects and mucous membrane irritant. Experimental reproductive effects. Mutation data reported. A common air contaminant.

TOXICITY DATA:

Skin-Human 50 mg/24H Mild irritation effects; **Skin-Rabbit**, adult 20 mg/24H Moderate irritation effects; **Skin-Rabbit**, adult 525 mg open Severe irritation effects; **Skin-Rabbit**, adult 50 mg/24H Mild irritation effects; **Eye effects-Rabbit**, adult 50 mg open Severe irritation effects; **Eye effects-Rabbit**, adult 5 mg/30S RNS Mild irritation effects; **Mutation in Microorganisms** - *Escherichia coli* 300 ppm/3H; **Sex Chromosome Loss and Nondisjunction** - *Drosophila melanogaster*-Inhalation 1000 ppm/24H; **Sex Chromosome Loss and Nondisjunction** - *Drosophila melanogaster*-Oral 1000 ppm; **Cytogenetic Analysis** - *grl* -Parenteral 40 mmol/L; **Oral-Rat** TDLo: 700 mg/kg (18D post): Reproductive effects; **Oral-Human** TDLo: 1470 mg/kg: Gastrointestinal tract effects; **Inhalation-Human** TCLo: 816 ppm/3M: NOSE, Eye effects, Pulmonary system effects; **unk-Man** LDLo: 308 mg/kg; **Oral-Rat** LD₅₀: 3310 mg/kg; **Inhalation-Rat** LCLo: 16,000 ppm/4H; **Inhalation-Mouse** LC₅₀: 5620 ppm/1H; **Intravenous-Mouse** LD₅₀: 525 mg/kg; **Oral-Rabbit**, adult LDLo: 600 mg/kg; **Skin-Rabbit**, adult LD₅₀: 1060 mg/kg; **Subcutaneous-Rabbit**, adult LDLo: 600 mg/kg; **Rectal-Rabbit**, adult LDLo: 600 mg/kg

Section XII - Ecological Considerations

Ecological testing has not been conducted on this product. Material should be considered hazardous to aquatic life.

Section XIII - Disposal Considerations

Waste Classification: Material should be disposed of by incineration (preferred) or in an approved landfill in accordance with all federal, state, and local regulations. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the products meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may render the resulting material hazardous.

The container of this product can present physical or health hazards, even when emptied! To avoid risk of injury, do not cut, puncture, or weld on or near this container. Since emptied containers retain product residue, follow label warnings even after container is emptied.

Section XIV - Transportation Information

DEPARTMENT OF TRANSPORTATION:

DOT Proper Shipping Name: Acetic Acid Solution, 8, UN2790, PG III
DOT Hazard Class: 8
DOT Identification Number: UN2790
DOT Identification Name: Acetic Acid Solution
DOT Packaging Group: III
RQ: Glacial Acetic Acid (1,427 gallons or 12,135 lbs)
2000 ERG Guide Number: 153

Section XV - Regulatory Information

TSCA: Components of this product are listed on the TSCA Inventory.

CERCLA: If reportable quantity of this product is accidentally spilled the incident is subject to the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act and must be reported to the National Response Center by calling (800) 424-8802.

<u>CERCLA Component</u>	<u>CAS #</u>	<u>Wt. %</u>	<u>RQ, lbs</u>	<u>Product RQ Value</u>
Acetic Acid	64-17-9	41.2	5,000 lbs	12,135 lbs (1,427 gallons)

SARA TITLE III:

This product contains the following Extremely Hazardous Substance under EPCRA section 302/304 lists.

<u>EHS Component</u>	<u>CAS#</u>	<u>Wt. %</u>	<u>RQ, lbs</u>	<u>TPQ, lbs</u>
None				

Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories:

Immediate Health X Delayed Health X Fire Pressure Reactive

This product contains the following Section 313 Reportable Ingredients:

<u>313 Component</u>	<u>CAS #</u>	<u>Wt. %</u>
None		

Section XVI - Other Information

Hazardous Material Identification System Category Rating:

Health: 2
Flammability: 2
Reactivity: 1
Personal Protection: H

This rating scheme rates health, fire, and reactivity on a scale of 0 to 4.

0 = No significant hazard 1 = Slight Hazard 2 = Moderate Hazard 3 = High Hazard 4 = Extreme Hazard

Personal Protective Equipment Guide:

A = Safety Glasses	G = Safety Glasses, Gloves, Vapor Respirator
B = Safety Glasses, Gloves	H = Safety Goggles, Gloves, Apron, Vapor Respirator
C = Safety Glasses/Goggles, Gloves, Apron	I = Safety Glasses, Gloves, Apron, Dust & Vapor Respirator
D = Gloves, Apron, Faceshield	J = Splash Goggles, Gloves, Apron, Dust & Vapor Respirator
E = Safety Glasses, Gloves, Dust Respirator	K = Air Line Hood/Mask, Gloves, Full Suit, Boots
F = Safety Glasses, Gloves, Apron, Dust Respirator	X = Ask supervisor for special handling instructions

Component data taken from Sax's Dangerous properties of Industrial Materials, 10th Edition, John Wiley & Sons; Vendor's MSDS Sheets, NIOSH "Pocket Guide to CHEMICAL HAZARDS", U.S. Department of Health and Human Resources, 1997; The Merck Index, 9th Edition, Merck & Co., Inc.; "ACGIH 2002 TLVs and BEIs", American Conference of Governmental Industrial Hygienists;

“Quick Selection Guide to CHEMICAL PROTECTIVE CLOTHING”, 3RD Edition, John Wiley & Sons, Inc. ,1997.

Definitions

ACGIH:	American Conference of Governmental & Industrial Hygienists
ANSI:	American National Standard Institute
BEI:	Biological Exposure Indices - individual tests via urine or exhaled air
CERCLA:	Comprehensive Emergency Response, Compensation, and Liability Act
DOT:	U.S. Department of Transportation
EPA:	U.S. Environmental Protection Agency
HMIS:	Hazardous Materials Identification System
IARC:	International Agency For Research On Cancer
LC ₅₀ :	Lethal Concentration 50: A calculated concentration of the substance which is expected to cause death in 50% of an entire defined experimental animal population.
LCLo:	Lethal Concentration Low: The lowest concentration of a material in air (other than LC50) that has been reported to have caused death in humans or animals.
LD ₅₀ :	Lethal Dose 50: A calculated concentration of the substance which is expected to cause death in 50% of an entire defined experimental animal population.
LDLo:	Lethal Dose Low: the lowest dose (other than LD ₅₀) of a material introduced by any route, other than inhalation, over any given period of time in one or more divided portions and reported to have caused death in humans or animals.
MSHA:	Mine Safety and Health Administration
N/A:	Not Applicable
N/D:	Not Determined
NE:	Not Established
NFPA:	National Fire Protective Association
NIOSH:	National Institute for Occupational Safety & Health
NSF:	National Sanitation Foundation
NTP:	National Toxicology Program
OSHA:	U.S. Occupational Safety and Health Administration
PEL:	Permissible Exposure Limit
PPE:	Personal Protective Equipment
RCRA:	Resource Conservation and Recovery Act
REL:	Recommended Exposure Limit (NIOSH)
RQ:	Reportable Quantity
SARA:	Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA:	Self Contained Breathing Apparatus
STEL:	Short Term Exposure Limit
TCLo:	Toxic Concentration Low: The lowest concentration of a material in air to which humans or animals have been exposed for any given period of time that has produced any toxic effect in humans or produced a carcinogenic, neoplastigenic, or teratogenic effect in animals or humans.
TLV:	Threshold Limit Value: A recommended upper limit or TWA concentration of a substance to which most workers can be exposed without adverse effects.
TSCA:	Toxic Substances Control Act
TWA:	Time Weighted Average
Wt:	Weight
<:	Less Than
>:	Greater Than

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